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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/618,165

07/17/2000

Jae Beom Choi

8733.039.20

8415

30827 7590 05/11/2009  
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EXAMINER

CALLAWAY, JADE R

ART UNIT

PAPER NUMBER

2872

MAIL DATE

DELIVERY MODE

05/11/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/618,165	<b>Applicant(s)</b> CHOI ET AL.	
	<b>Examiner</b> JADE R. CALLAWAY	<b>Art Unit</b> 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-15, 17-23 and 27-37 is/are pending in the application.
- 4a) Of the above claim(s) 27-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-15 and 17-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/084583.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendments to the claims, in the submission dated 4/6/09, are acknowledged and accepted.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 13-15, and 17-23 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13-15, 17-19, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sinoto (3,371,324) in view of Melles-Griot Optics Catalog (Optics Guide 5) and Hanssen et al. (4,624,537).

Consider claim 22, Sinoto discloses a polarizer structure (e.g. fig. 2) comprising a light source for generating a light (light source not labeled); a plurality of sections (e.g. 20, 22, 24, 26), each section comprising a plurality of transparent substrates (e.g. 28, 30, 32, 34) made of plastic and producing polarized light; a polarizer holder (36, opaque border) supporting the plurality of substrate parts, wherein the polarizer holder includes a material having an optical absorptivity, and wherein the polarizer holder absorbs light reflected by the plurality of substrate parts; a means for directing light onto the plurality

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of substrates (via lenses) wherein the polarizer holder has a lattice like structure [col. 2, line 53 to col. 3, line 6]. Note: the recitation “for treating an alignment layer on a substrate of a liquid crystal display device” has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

However, Sinoto does not disclose explicitly that the transparent substrates (e.g. 28, 30, 32, 34) causing the polarization of the incident light are made from quartz. Official Notice is taken. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use quartz plates instead of plastic plates in the polarizer structure of Sinoto, since quartz is less susceptible to external deleterious factors.

However, Sinoto does not specify the amount of Optical absorptivity exhibited by the polarizer holder. Sinoto and The Melles-Griot Optics product catalogue are related as polarizer devices. The Melles-Griot Optics product catalog (Optics Guide 5) shows polarizer elements (e.g., sheet polarizers), wherein it is disclosed that said polarizers are mounted on holders comprising black metal ring (see p. 14-23). In the special section dedicated to mounting systems, the catalog shows a lens holder made from brass, wherein it is taught that the body is black chrome coated to reduce scatter and

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stray reflections (see p. 23-5). For illustration purposes only, several other product publications are recited, all of them disclosing polarizer holders made of black anodized metal (see OptoSigma, Standa, and EKSPLA catalogs). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the material of the polarizer holder of Sinoto have a high absorptivity (such as highly absorbing black surfaced material), as taught by the Melles-Griot catalog, for avoiding undesired scattering of light (as taught by Melles-Griot) into the (narrow-angle forward, p-polarized) light component at the output of the device. Regarding the claimed amount of absorptivity, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the material of the polarizer holder of Sinoto having an absorptivity almost equal to 100%, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The use of highly absorptive optical element holders is well known in the art for preventing deleterious light scattering and reflection effects, which may adversely affect the optical beam quality.

However the modified Sinoto reference does not disclose a first moving control part moving the plurality of quartz substrate parts in the X-axis direction or a second moving control part moving the plurality of quartz substrate parts in the Y-axis direction. Sinoto, Melles-Griot and Hanssen et al. are related as adjustable devices. Hanssen et al. teach (e.g. figure 1) a first moving control part (6, displacement drive) for moving the plurality of quartz substrates in the X-axis direction and a second moving control part (8, displacement drive) moving the plurality of quartz substrate parts in the Y-axis direction

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[col. 2, lines 44-48]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of the modified Sinoto reference, as taught by Hanssen et al., in order to easily adjust the positioning of elements as needed in both X and Y directions.

Consider claims 13 and 15, the modified Sinoto reference discloses (e.g. figure 2 of Sinoto) the polarizer sections are rectangular.

Consider claim 14, the modified Sinoto reference does not specify that the sections 31 or 32 are triangular in shape. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the polarizer section triangular, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Here, the result effective variable is the shape of the polarizer. A mesh of triangular shaped sections is more economical to make since it has fewer connecting edges.

Consider claim 17, the modified Sinoto reference discloses (e.g. figure 10 of Sinoto) that the plurality of substrates can be stacked (e.g. layers 104 and 106) [col. 8, lines 10-19 of Sinoto].

Consider claims 18-19, the modified Sinoto reference discloses that the substrate partially polarizes the light. However, the modified Sinoto reference does not disclose that the means for directing the light collimates the light. Official notice is taken. Although Sinoto does not disclose that the lenses collimate the light, it is well known that optical systems use lenses to collimate light in order to produce a uniform beam of

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light to prevent aberrations and other optical errors. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of the modified Sinoto reference so that a uniform beam of light could be produced to eliminate errors associated with uncollimated light.

Consider claim 23, the modified Sinoto reference discloses (e.g. figure 10 of Sinoto) that the degree of partially polarization depends on the number of substrates (polarization will depend on which portions of sheets 104 and 106 the light passes through) [col. 8, lines 10-19 of Sinoto].

5. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sinoto (3,371,324) in view of Melles-Griot Optics Catalog (Optics Guide 5) and Hanssen et al. (4,624,537) as applied to claim 1 above, and in further view of Kubota (3,912,920).

Consider claims 20-21, the modified Sinoto reference does not disclose that the plurality of the glass substrate parts is placed at a non-zero angle equal to the Brewster's angle relative to the normal line to the surface of the polarizer. Sinoto, Melles-Griot, Hanssen and Kubota are related as adjustable devices. Kubota teaches that the plurality of the glass substrate parts is placed at a non-zero angle equal to the Brewster's angle relative to the normal line to the surface of the polarizer. [lines 43-49, col. 1 of Kubota]. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of the modified Sinoto reference, as taught by Kubota, so that light can be transmitted through the surface without reflection thereby reducing reflection errors.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JADE R. CALLAWAY whose telephone number is (571)272-8199. The examiner can normally be reached on Monday to Friday 6:00 am - 3:30 pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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